



Datasheet

liniLED® Handrail 42.4

V0519



liniLED®

Handrail 42.4

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Product information

The liniLED® Handrail is a revolutionary LED based handrail system that provides continuous functional lighting for a safe indoor and outdoor environment. The liniLED® Handrail can be wall mounted or post mounted. By integrating the liniLED® Top LED strips (24 V DC) in the stainless steel liniLED® Handrail, the product is ideal for high- end indoor and outdoor projects in various sectors, such as: architecture, infrastructure, construction, health and entertainment industry. The liniLED® Handrail has the same light benefits as a LED fixture: energy efficient with an expected lifetime of more than 50.000 hours.

Technical specifications

Dimensions handrail:	Ø42.4 mm
Material handrail & baluster:	AISI 316L
Material brackets:	AISI 316
Material Profile in the handrail:	Aluminium 6060-T6
Power Supply:	24 V DC
Water resistance LED strip:	IP40 ('Normal' indoor situation)
Accessories:	Several accessories (see page 9)

	IP40
liniLED® Top LED strip Mono	X
liniLED® Top LED strip TW & RGB	X

Product specifications

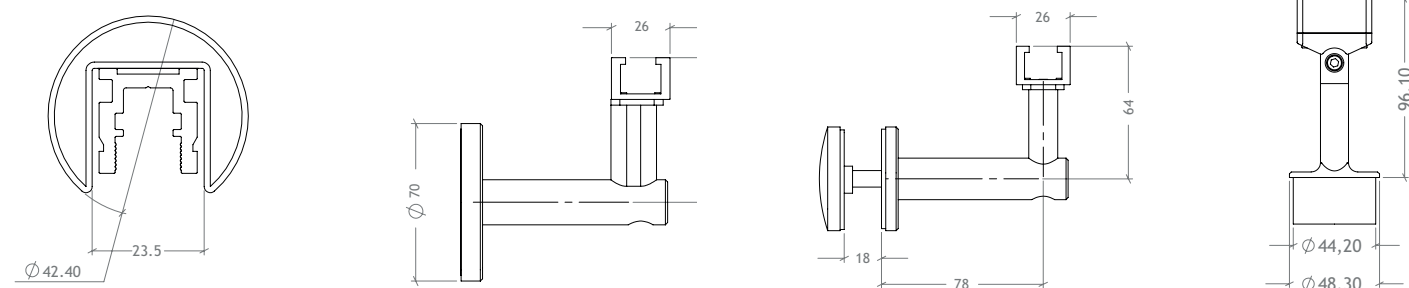
The maximum unit length of the handrail is 6 metres and can easily be connected mechanically or by welding. All handrails can be applied indoor and outdoor. However, the round 48.3 mm handrail is recommended for outdoor projects and can be used with the liniLED® Side LED strip.

Required tools and products

Depending on the project, standard tools and metal working tools should be present at the location. Make sure the following tools and products are present:

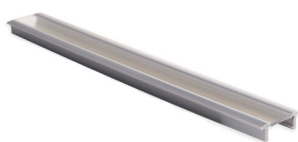
- Metal saw
- Grinding tool
- Metric Allen key 3, 4 and 5
- Torx 20 screwdriver
- Screwdriver nr. 2 and nr. 3
- Stripping tool
- Anaerobic adhesive suitable for stainless steel
- Degreaser
- Welding equipment (When performing welding on site)
- liniLED® Roller
- liniLED® Pliers

Dimensions

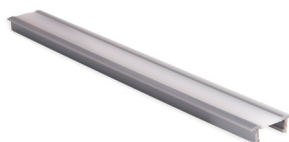


Clear or Frosted covers

The liniLED® Handrail comes with a cover. Depending on the desired light effect, you can choose between a clear, frosted or Diffuse cover. When using the clear cover, the light dots of the liniLED® LED strip are visible. In case a more 'diffuse' light effect is desired, the frosted cover is the right choice. By using the frosted cover, the light dots of the LED strip are 'blurred'. The higher the luminous intensity of the strip, the more 'diffuse' the light effect will be. Regardless of which cover you choose: the liniLED® LED strips in the handrail are secured.



Clear covers 42.4 mm



Frosted covers 42.4 mm

Standard & customised angles

There are three standard angles for the liniLED® Handrails: 45°, 90° and 120°. Other angles can be customised upon request.



Customised Angles



45° Angle



90° Angle



120° Angle

Wall & Post Mounting

The maximum unit length of the handrail is 6 metres and can easily be connected mechanically or by welding. All handrails can be applied indoor and outdoor. However, the round 48.3 mm handrail is recommended for outdoor projects.

As well as the wall bracket, the position of the adapter can easily be adjusted to ensure a continuous light line. The liniLED® Handrail can be delivered with several infill options, such as: glass, cables and railings. It is possible to prefabricate the posts. For example: If glass infill is desired, the posts can be customised with glass clamps. Ask us about the customised options.



Post Mounting



Wall Mounting



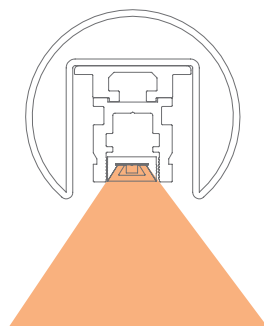
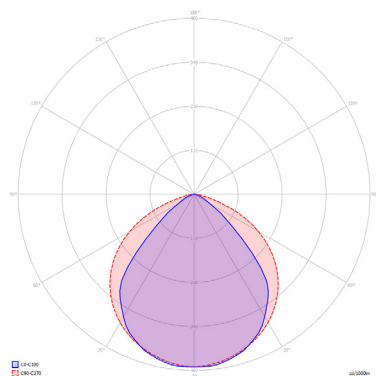
Glass infill option



Glass Wall/ Panel Mounting

Product specifications Top LED strips

The high-quality, flexible liniLED® Top LED strips are fully integrated into the stainless steel handrail. With a unique co-extrusion technology, all the liniLED® Top LED strips realise an optimal light output (24 V DC). The LED strips are available several colours.



liniLED® Top Deco LED strips

Colour	V DC	W/m	lm/m	Max. Length
2400K	24	1.1	90	20 m
2700K	24	1.1	106	20 m
3000K	24	3.3	102	20 m
4000K	24	1.1	113	20 m
6500K	24	2.2	113	20 m
Red	24	4.4	55	20 m
Green	24	2.5	106	20 m
Blue	24	1.7	23	20 m
Amber	24	4.4	47	20 m

liniLED® Top Power LED strips

Colour	V DC	W/m	lm/m	Max. Length
2400K	24	4.5	381	10 m
2700K	24	4.6	415	10 m
3000K	24	4.3	381	10 m
4000K	24	4.1	411	10 m
6500K	24	4.1	426	10 m
Red	24	8.3	102	10 m
Green	24	4.9	153	10 m
Blue	24	7.2	68	10 m
Amber	24	8.3	94	10 m

liniLED® Top High Power LED strips

Colour	V DC	W/m	lm/m	Max. Length
2400K	24	8.9	623	10 m
2700K	24	8.9	703	10 m
3000K	24	8.3	617	10 m
4000K	24	8.6	711	10 m
6500K	24	8.6	693	10 m

liniLED® Top Photon 1200 LED strips

Colour	V DC	W/m	lm/m	Max. Length
2000K	24	10.6	811	9 m
2400K	24	10.6	958	9 m
2700K	24	8.9	997	9 m
3000K	24	8.9	1023	9 m
4000K	24	8.1	1008	9 m
6500K	24	8.1	1003	9 m

liniLED® Top Tunable White LED 1200 strips

Colour	V DC	W/m	lm/m	Max. Length
2700K/ 6500K	24	10.5	838	9 m

liniLED® Top RGB 160/240 LED strips

Colour	V DC	W/m	lm/m	Max. Length
RGB 160	24	4.8	139	10 m
RGB 240	24	7.2	209	5 m

Material

AISI 316 L tube

Chemical composition										Mechanical Test		
Item No.	Polish	C	Si	Mn	P	S	Cr	Ni	Mo	T.S.	Y.S.	Elongation
		%	%	%	%	%	%	%	%	MPa	MPa	%
		≤ 0.080	≤ 0.75	≤ 2.000	≤ 0.040	≤ 0.030	16.0 - 18.0	10.0 - 14.0	2.0 - 3.0			
2004976	#320 satin	0.023	0.33	1.11	0.003	0.004	16.10	10.15	2.08	616	330	57
2004981	#320 satin	0.028	0.20	1.05	0.010	0.002	16.05	10.10	2.12	618	326	55

AISI 316 Brackets

Chemical composition									
Item No.	C	Si	Mn	P	S	Cr	Ni	Mo	
	%	%	%	%	%	%	%	%	
	≤ 0.080	≤ 0.75	≤ 2.000	≤ 0.040	≤ 0.030	16.0 - 18.0	10.0 - 14.0	2.0 - 3.0	
40-1287.1	0.002	0.500	1.020	0.041	0.008	16.219	10.275	2.099	
40-1285.1	0.032	0.604	0.0833	0.042	0.008	17.473	10.413	2.315	
40-1288.1	0.008	0.462	1.003	0.036	0.005	16.706	10.350	2.184	
40-1260.0	0.022	0.607	0.994	0.037	0.007	16.959	10.584	2.327	
40-1284.1	0.002	0.624	1.209	0.039	0.008	17.190	11.159	2.422	
40-1283.1	0.023	0.682	0.947	0.038	0.007	17.237	10.272	2.265	
40-1286.1	0.022	0.550	1.025	0.032	0.004	17.231	10.327	2.229	

Aluminium Alloy 6036-T6

Chemical composition							Mechanical Test			
Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	T.S.	Y.S.	Elongation
0.2- 0.6%	≤ 0.35%	≤ 0.10%	≤ 0.10%	0.45- 0.90%	≤ 0.10%%	≤ 0.10%%	≤ 0.10%%	min. 215	min. 170	min 8%

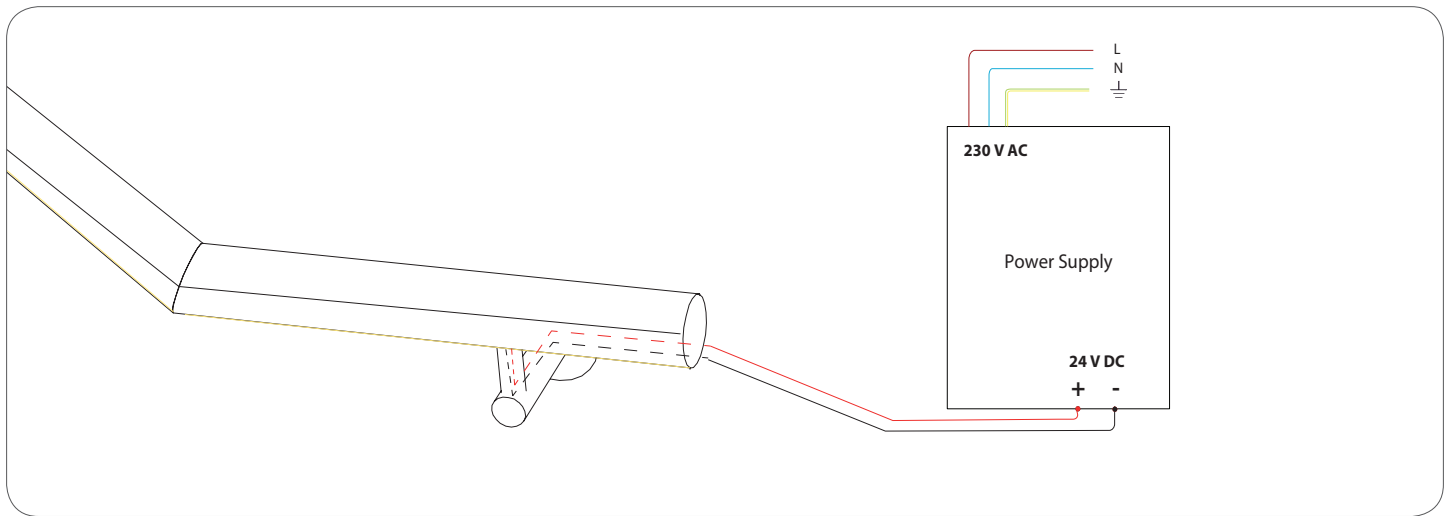



Danger! Danger electric shocks! Whenever this sign is shown, the user should be aware of dangerous situations, which can cause electric shocks. Follow the safety instructions to prevent physical injuries of life-threatening situations.



Warning! In some cases the user can injure himself or damage the product. The warning sign points out such damage, when the user does not follow the procedures.

Power Supply

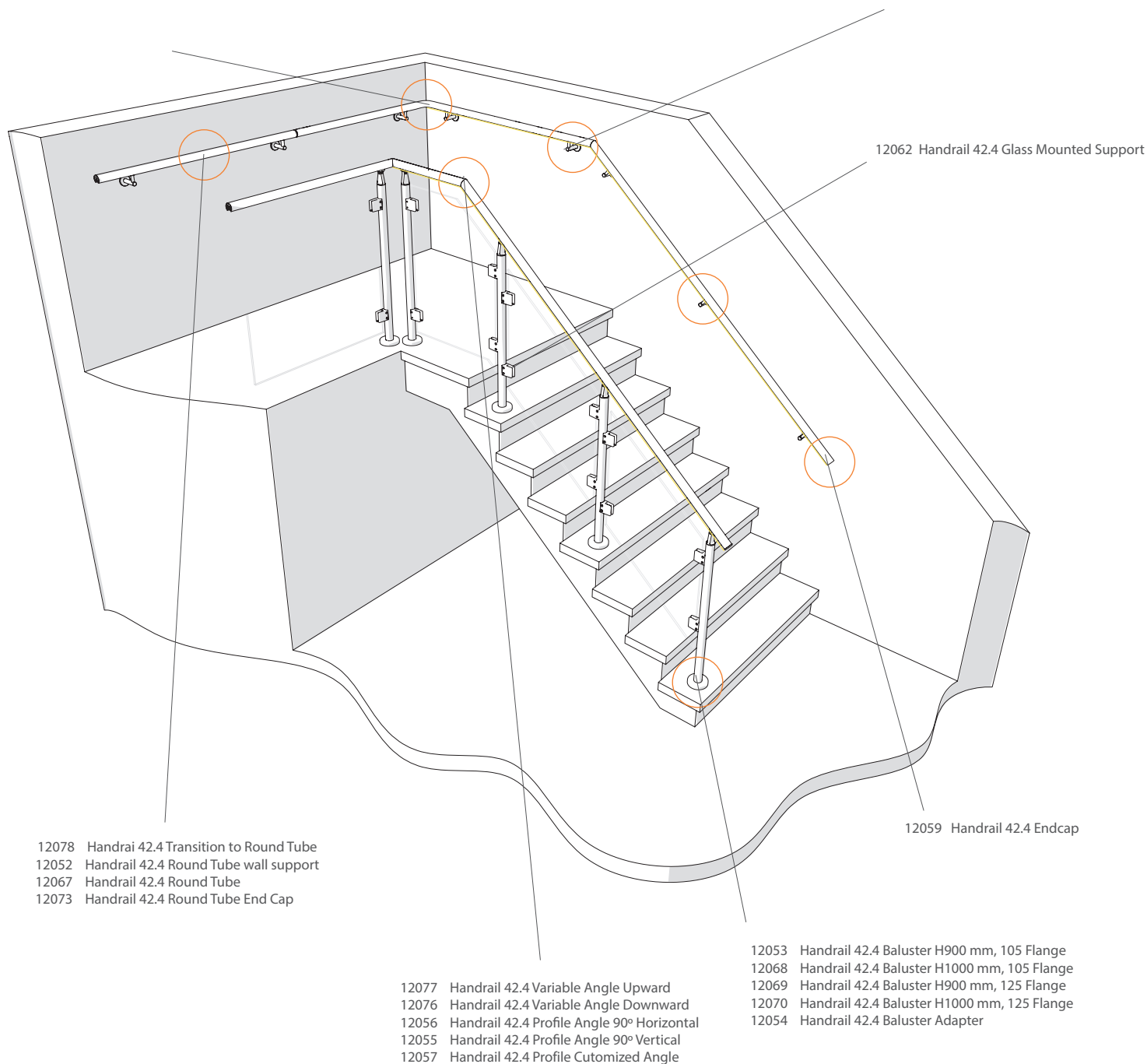


 **Warning!** The Power Supply and any Drivers are always connected externally. Always use a SELV Driver.

Parts of the liniLED® Handrail

- 12125 Handrail Connector IP40
- 12049 Handrail 42.4 Pre Mounted Profile
- 12063 Handrail 42.4 Aluminium Profile with screws 1200
- 12064 Handrail 42.4 Aluminium Profile without screws 1200
- 12065 Handrail 42.4 Aluminium Profile with screws 600
- 12066 Handrail 42.4 Aluminium Profile without screws 600
- 12060 Handrail 42.4 Transparent Cover
- 12061 Handrail 42.4 Frosted Cover
- 12113 Handrail 42.4 Transition Adapter to Round Pipe
- 12104 Handrail 42.4 Profile Adapter

- 12050 Handrail 42.4 Wall Support Standard
- 12074 Handrail 42.4 Wall Flange
- 12058 Handrail 42.4 Straight Coupler



12062 Handrail 42.4 Glass Mounted Support

12059 Handrail 42.4 Endcap

- 12078 Handrail 42.4 Transition to Round Tube
- 12052 Handrail 42.4 Round Tube wall support
- 12067 Handrail 42.4 Round Tube
- 12073 Handrail 42.4 Round Tube End Cap

- 12077 Handrail 42.4 Variable Angle Upward
- 12076 Handrail 42.4 Variable Angle Downward
- 12056 Handrail 42.4 Profile Angle 90° Horizontal
- 12055 Handrail 42.4 Profile Angle 90° Vertical
- 12057 Handrail 42.4 Profile Customized Angle

- 12053 Handrail 42.4 Baluster H900 mm, 105 Flange
- 12068 Handrail 42.4 Baluster H1000 mm, 105 Flange
- 12069 Handrail 42.4 Baluster H900 mm, 125 Flange
- 12070 Handrail 42.4 Baluster H1000 mm, 125 Flange
- 12054 Handrail 42.4 Baluster Adapter

Symbols



Manufacturer's declaration that the product meets the applicable EC directives.



Restriction of Hazardous Substances (RoHS): product complies with the RoHS directive and each homogeneous material does not exceed the limits for the materials mentioned under the RoHS directive (Pb, Hg, Cd, Cr6+, PBB and PBDE).



This product can be both IP40 and IP65 depending on the configuration and application. See the documentation for the exact IP rating.



Protected against impact energy of 20 joules.



Electrical appliance class III: this product is designed to be supplied from an extra-low voltage (≤ 60.0 V DC or ≤ 42.4 V AC).



Very high quality stainless steel type 316.



Very high quality low carbon stainless steel type 316.



Product is resistant against ultraviolet (UV) light or sunlight. Non-UV resistant products can degrade or discolour fast when exposed to UV light.



Product can be cleaned with normal cleaning agents as specified in the datasheet under 'chemical compliances'.



This product can be stored and used below 0 degrees Celsius. Verify the minimum storage and operation temperature in the datasheet or manual for the lowest temperature allowed.



This product needs to be disposed of separately from normal household waste so it can be recycled. Verify the IP rating for proper use.

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